CONTENTS OF VOLUME 432

January 1991

LISTON T.G., PALFREY E.L.H., RAIMBACH S.J. & FRY C.H. The effects of pH changes on human and ferret detrusor muscle function. 1

DOLPHIN Annette C. Ca^{2+} channel currents in rat sensory neurones: interaction between guanine nucleotides, cyclic AMP and Ca^{2+} channel ligands. 23

MCCALL E. & ORCHARD C.H. The effect of acidosis on the interval–force relation and mechanical restitution in ferret papillary muscle. 45

LEFEVRE Isabel A., COULOMBE Alain & CORABOEUF Edouard The calcium antagonist D600 inhibits calcium-independent transient outward current in isolated rat ventricular myocytes. 65

HARGREAVES M., RAVI K. & KAPPAGODA C.T. Responses of slowly and rapidly adapting receptors in the airways of rabbits to changes in the Starling forces. 81

STITT John T. Differential sensitivity in the sites of fever production by prostaglandin E_1 within the hypothalamus of the rat. 99

FERN Robert & HARRISON P.J. The effects of compression upon conduction in myelinated axons of the isolated frog sciatic nerve. 111

CREPEL F. & JAILLARD D. Pairing of pre- and postsynaptic activities in cerebellar Purkinje cells induces long-term changes in synaptic efficacy *in vitro*. 123

HOWE James R., CULL-CANDY Stuart G. & COLQUHOUN David Currents through single glutamate receptor channels in outside-out patches from rat cerebellar granule cells. 143

NEWLAND Claire F., COLQUHOUN David & CULL-CANDY Stuart G. Single channels activated by high concentrations of GABA in superior cervical ganglion neurones of the rat. 203

WYLLIE D.J.A., MATHIE A., SYMONDS C.J. & CULL-CANDY S.G. Activation of glutamate receptors and glutamate uptake in identified macroglial cells in rat cerebellar cultures. 235

LAMMEL Ernst, DEITMER Petra & NOACK Thomas Suppression of steady membrane currents by acetylcholine in single smooth muscle cells of the guinea-pig gastric fundus. 259

CLEEMANN Lars & MORAD Martin Role of Ca^{2+} channel in cardiac excitation–contraction coupling in the rat: evidence from Ca^{2+} transients and contraction. 283

THORN Peter J., WANG Xiaoming & LEMOS José R. A fast, transient K^+ current in neurohypophysial nerve terminals of the rat. 313

HAMILTON Bryan R. & SMITH Dean O. Autoreceptor-mediated purinergic and cholinergic inhibition of motor nerve terminal calcium currents in the rat. 327

SMITH Dean O. Sources of adenosine released during neuromuscular transmission in the rat. 343

BREMNER F.D., BAKER J.R. & STEPHENS J.A. Correlation between the discharges of motor units recorded from the same and from different finger muscles in man. 355

BREMNER F.D., BAKER J.R. & STEPHENS J.A. Variation in the degree of synchronization exhibited by motor units lying in different finger muscles in man. 381

DATTA A.K., FARMER S.F. & STEPHENS J.A. Central nervous pathways underlying synchronization of human motor unit firing studied during voluntary contractions. 401

GILBEY Michael P. & STEIN Reuben D. Characteristics of sympathetic preganglionic neurones in the lumbar spinal cord of the cat. 427

BURKE David, DICKSON Hugh G. & SKUSE Nevell F. Task-dependent changes in the responses to low-threshold cutaneous afferent volleys in the human lower limb. 445

SIMMONS N.L. Chloride secretion stimulated by prostaglandin E_1 and by forskolin in a canine renal epithelial cell line. 459

FITZGERALD Maria A physiological study of the prenatal development of cutaneous sensory inputs to dorsal horn cells in the rat. 473

MACDONALD J.F., BARTLETT M.C., MODY I., PAHAPILL P., REYNOLDS J.N., SALTER M.W., SCHNEIDERMAN J.H. & PENNEFATHER P.S. Actions of ketamine, phencyclidine and MK-801 on NMDA receptor currents in cultured mouse hippocampal neurones. 483

KARIM F. & MAJID D.S.A. Inhibition of atrial receptor-induced renal responses by stimulation of carotid baroreceptors in anaesthetized dogs. 509

NAARENDORP Franklin & FRUMKES Thomas The influence of short-term adaptation of human rods and cones on cone-mediated grating visibility. 521

BOWER E.A. & O'DONNELL C.P. Mean circulatory filling pressure during splanchnic nerve stimulation and whole-body hypoxia in the anaesthetized cat. 543

GIOUX M., PETIT J. & PROSKE U. Responses of cat muscle spindles which lack a dynamic fusimotor supply. 557

DAVIS Gerard & JOHNS Edward J. Effect of somatic nerve stimulation on the kidney in intact, vagotomized and carotid sinus-denervated rats. 573

YANASE Motoko, KANOSUE Kazuyuki, YASUDA Hiroki & TANAKA Hideto Salivary secretion and grooming behaviour during heat exposure in freely moving rats. 585

PARSONS Thomas D., LAGRUTTA Armando, WHITE Richard E. & HARTZELL H. Criss Regulation of Ca^{2+} current in frog ventricular cardiomyocytes by 5′-guanylyl-imidodiphosphate and acetylcholine. 593

JAHNEL U., NAWRATH H., CARMELIET E. & VEREECKE J. Depolarization-induced influx of sodium in response to phenylephrine in rat atrial heart muscle. 621

DANTZIG J.A., HIBBERD M.G., TRENTHAM D.R. & GOLDMAN Y.E. Cross-bridge kinetics in the presence of MgADP investigated by photolysis of caged ATP in rabbit psoas muscle fibres. 639

ARTALEJO Cristina R., DAHMER Mary K., PERLMAN Robert L. & FOX Aaron P. Two types of Ca^{2+} currents are found in bovine chromaffin cells: facilitation is due to the recruitment of one type. 681

YAMAGUCHI K., NAKAJIMA Y., NAKAJIMA S. & STANFIELD P.R. Erratum: *Journal of Physiology* **426** (1990). 709

PROCEEDINGS OF THE PHYSIOLOGICAL SOCIETY

20–21 *September* 1990

Belfast Meeting

DEMONSTRATIONS

Jamison J.P. & Brannigan P. An interactive video on human jugular venous pressure and the cardiac cycle. 2*P*

Jamison J.P. & Glover P. Comparison of computer and manual whole-body plethysmographic methods of determining bronchoconstrictor responses in man. 3*P*

Nolan P. & McKeogh D. A servo-controlled pump for use in the artificial ventilation of the isolated upper airway of the anaesthetized cat. 4*P*

Byrnes C., Stewart A., Trouton T.G. & Allen J.D. Some problems with the thermodilution method for measuring coronary sinus blood flow *in vitro*, and in the anaesthetized pig and dog. 5*P*

Stewart A., Allen J.D., Carlisle E.J.F., Kernohan W.G. & Adgey A.A.J. Comparison of the dominant frequency of ventricular fibrillation in man and the anaesthetized dog and pig. 6*P*

Gleadhill I.C.L., Smith W.B. & MacMahon J. Portable equipment for carrying out polysomnographic studies in patients. 7*P*

COMMUNICATIONS

McGeown J.G. Modulation of lymphocyte output in mesenteric lymph by splanchnic nerve stimulation in anaesthetized sheep. 8*P*

McHale N.G., Harty H.R. & Thornbury K.D. Excitatory neurotransmission in isolated sheep mesenteric lymphatic vessels. 9*P*

McGeown J.G. & Crockard A. Lymphocyte subpopulations in blood and mesenteric lymph from conscious sheep. 10*P*

Lossius K., Eriksen M. & Walløe L. Control of blood flow through arteriovenous anastomoses in human skin. 11*P*

Allen Judith A., Devlin M.A. & McGrann S. Objective testing for vasospasm in Raynaud's phenomenon in man. 12*P*

Spittle C.S.N., Stears Anna & Michel C.C. The effects of venous congestion on the magnitude and time course of reactive hyperaemia in the human forearm. 13*P*

McKinney M., Howe J. & Clarke R.S.J. The effect of oxytocic agents on human forearm blood flow during general anaesthesia. 14*P*

Trouton T.G., Allen J.D., Shaw C., Rooney J.J., Buchanan K.D. & Adgey Jennifer Neuroendocrine responses and myocardial free radical formation after DC countershocks in the anaesthetized dog. 15*P*

Titchen D.A. & Edwards A.V. Parotid salivary secretory responses to stimulation of the autonomic innervation in anaesthetized sheep. 16*P*

Lung M.A. Effects of sympathetic nerve stimulation on parasympathetically induced salivary secretion in anaesthetized dogs. 17*P*

Austin S. & Scholfield C.N. Effect of phorbol dibutyrate on the action of anaesthetics in slices of rat olfactory cortex. 18*P*

McGuinness N., Rowan M. & Anwyl R. The effect of phorbol 12,13-dibutyrate and external calcium on long-term potentiation and an NMDA-induced short-term potentiation in the CA1 region of the rat hippocampal slice. 19*P*

McGivern J. & Scholfield C.N. Dendrotoxin partially blocks potassium 'A' currents of nerve terminals in slices of rat brain. 20*P*

Kernan R.P. & Kearns J.B. Single-channel recording of potassium fluxes in rat soleus muscle vesicles in the presence of salbutamol. 21*P*

Spencer G.E., Spraggs C.F., Stables R. & Hirst B.H. Effect of acid on transmucosal electrical resistance in rabbit isolated gastric mucosa. 22*P*

Law R.O. The effect of acute hypovolaemia on renal inner medullary amino acids in conscious rats. 23*P*

Vatish M. & Boyd C.A.R. Inhibition of human placental ion permeability by filipin in membrane vesicles. 24*P*

Schwiening Christof J. Rapid electroneutral pH_i regulation in neurones isolated from unfed locust can produce large hyperpolarizations. 25*P*

Poli de Figueiredo C.E., Ng L.L., Davies J.E., Cazana F.J.L., Hendry B.M. & Ellory J.C. Effect of cell cholesterol on Na–H antiporter activity in human lymphoblasts. 26*P*

Goldsmith D.J.A. & Hilton P.J. An investigation of sodium–hydrogen ion exchange in human leucocytes: the effect of manipulating external and internal ion concentrations, and the effect of incubation with human serum. 27*P*

Arblaster L.A., Lakie M., Powers N., Villagra F. & Wright G.W. Physiological tremor of the wrist in expert shooters. 28*P*

Garrett M. & Bin Shakoor S. Changes in the excitability of the Hoffman reflex during walking in hemiplegic man. 29*P*

Kozlowski R.Z., Hales C.N. & Ashford M.L.J. Electrophysiological properties of the rat insulin-secreting cell line CRI-G1. 30*P*

Kukstas L.A., Domec C., Bascles L., Bonnet J., Israel J.M. & Vincent J.D. Prolactin cells isolated from lactating rats can express two different dopamine D2 receptors. 31*P*

Lappin T.R.J., Maxwell A.P., Johnston C.F., Bridges J.M. & McGeown M.G. Murine kidney tubular cells produce erythropoietin. 32*P*

Giussani D.A., Spencer J.A.D., Moore P.J. & Hanson M.A. Effect of carotid sinus nerve section on the initial cardiovascular response to acute isocapnic hypoxia in fetal sheep *in utero*. 33*P*

Bennet Laura & Hanson Mark The effect of PGE_2 on carotid chemoreceptor discharge in anaesthetized newborn lambs. 34*P*

Robertson B.E., Bee Denise & Nye P.C.G. Tolbutamide reverses almitrine- but not phenylephrine-induced pulmonary vasoconstriction in the isolated rat lung. 35*P*

Robertson B.E. & Nye P.C.G. Glibenclamide blocks cromakalim-induced vasodilatation of the hypoxic isolated rat lung. 36*P*

Innes J.A., de Cort S.C., Kox W. & Guz A. Within-breath variations in left ventricular stroke volume in man during positive-pressure ventilation. 37*P*

Mohammed S.P., Higenbottam T.W. & Adcock J.J. Capsaicin aerosol causes stimulation of lung irritant receptors in anaesthetized cats. 38*P*

Adcock J.J., Higenbottam T.W. & Mohammed S.P. Prostaglandin E_2 aerosol causes stimulation of lung irritant receptors in anaesthetized cats. 39*P*

Jamison J.P. Components of the single-breath carbon monoxide transfer-factor responses to exercise and posture in young adult subjects. 40*P*

White J.A., Semple E. & Norum R. Sinus arrhythmia as an estimate of maximal aerobic power in man. 41*P*

O'Connell D.P. & Hall W.J. Femoral artery infusions of prostaglandin E_2 reduce urine output in the anaesthetized water-loaded dog. 42*P*

McKitrick D.J. & Calaresu F.R. Effects on heart rate (HR) and arterial pressure (AP) of microinjections of substance P (SP) and acetylcholine (ACh) into the intermediolateral nucleus (IML) of the upper thoracic spinal cord in the anaesthetized rat. 43*P*

Walsh E.G., Lambert M., Wright G.W., Powers N. & Nuki G. Resonance at the wrist in hypermobile women. 43*P*

POSTER COMMUNICATIONS

Wang J.C.C. & Lung M.A. Regional distribution of nasal airway resistance in anaesthetized dogs. 44*P*